

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-70 are pending, of which Claims 1-17, 63, and 67 are active and Claims 18-62, 64-66, and 68-70 are withdrawn. Claims 1, 63 and 67 are amended by the present amendment.

Support for amended Claims 1, 63 and 67 can be found in the disclosure as originally filed. Thus, no new matter has been added.

In the outstanding Office Action, Claims 1-7, 9-13, 63, and 67 were rejected under 35 U.S.C. § 103(a) as unpatentable over Okada et al. (U.S. Pat. No. 6,226,086, herein Okada) in view of admitted prior art; Claims 8, 14, 16, and 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Okada in view of admitted prior art and in further view of Kondo et al. (U.S. Pat. No. 5,731,849, hereafter Kondo); and Claim 15 was rejected under 35 U.S.C. § 103(a) as unpatentable over Okada and admitted prior art in view of Onuki (U.S. Patent Publication No. 2002/0097324).

At the outset, Applicants thank Examiner Ye for the telephone discussion granted Applicants' representative on August 29, 2006. During the discussion, the judgment unit of Claim 1 was discussed with regard to the judging circuit of Okada.

Before turning to the outstanding prior art rejections, it is believed that a brief review of the present invention would be helpful.

In the past, pixel shift photography has been used to improve solid state image sensing device quality. Pixel shift photography obtains high resolution by combining an image photographed by shifting a subject by half a pixel pitch and an image before such shifting to obtain a single image. Typical examples of image shift mechanisms are shown in Figures 27A-27C of the present specification.

However, using conventional image shift techniques, desired image quality may not be obtained. Namely, due to the movement of a user's hands, movement of the subject, or change in performance of the pixel shift mechanism, image quality may be deteriorated. When any of these events occurs, the degree of deterioration of the image differs depending on the degree of the shift. In fact, if deterioration of the image crosses a certain threshold, the image becomes inferior as compared to an image obtained using ordinary photography techniques.¹

In light of these difficulties, the Applicants developed the present invention, as recited, for example, in Claim 1. To this end, amended Claim 1 recites, in part,

a judgment unit which judges whether the pixel shift photography on the completed combined image has been performed correctly or not, based on the image data for a plurality of images output before and after the displacement of said image sensing unit.

Independent Claims 63 and 67 recite analogous features.

Okada describes a moving amount detecting unit 9 uses image data A stored in image memory 31 and later obtained image data B stored in image memory 32 to calculate a motion vector.² This motion vector is used estimate movement of the device.³ However, when the motion vector calculator operation rate is slow the moving amount cannot be calculated in real time⁴, thus, the motion vector and the moving amount are calculated using historical moving amounts.⁵

Page 2 of the outstanding Office Action states, "claim 1 is written broadly...claim 1 does not require the judgment unit judges if the pixel shift on the actual completed merged image has been performed correctly or not...claim 1 only need[s] "a judgment unit which judges...based on the image data for a plurality of images output before and after the

¹ Specification, pages 2-3.

² Okada, col. 14, lines 51-55.

³ Okada, col. 14, lines 55-57.

⁴ Okada, col. 15, lines 14-16.

⁵ Okada, col. 15, lines 16-19.

displacement of said image sensing unit.” The Okada reference clearly discloses...[this feature].”

In response Applicants have amended Claim 1 and similarly Claims 63 and 67 to recite a judgment unit which judges whether the pixel shift photography on the completed combined image has been performed correctly or not.

Accordingly, the judging circuit of Okada and the judgment unit recited in amended Claim 1 are now clearly not analogous. The judging circuit of Okada 10 judges if a camera moving amount (dx, dy) is larger than a predetermined threshold, while the judgment unit of Claim 1 judges if the pixel shift on the actual completed combined image has been performed correctly or not.

Therefore, Okada does not describe or suggest “a judgment unit which judges whether the pixel shift photography on the completed combined image has been performed correctly or not, based on the image data for a plurality of images output before and after the displacement of said image sensing unit,” as is recited in Claim 1.

Accordingly, as Okada fails to disclose or suggest the features of independent Claims 1, 63, and 67, it is respectfully requested that the outstanding rejection of Claims 1-17, 63, and 67 be withdrawn.

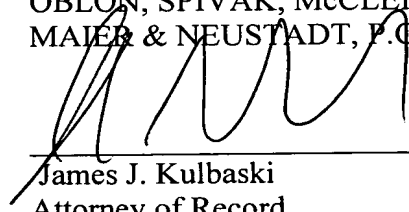
Likewise, with respect to the remaining rejections of Claims 8 and 14-17, these rejections all primarily rely upon Okada. Because these claims depend from Claim 1, it is respectfully submitted that the outstanding Office Action has not provided a *prima facie* case of obviousness with respect to Claims 8 and 14-17. It is therefore respectfully requested that these rejections be withdrawn.

As the present Amendment introduce no new matter, does not require any new search, and should be considered to remove all the outstanding rejections, entry of the present Amendment Under 37 C.F.R. § 1.116 is respectfully requested to be in order.

Consequently, in view of the foregoing discussion, it is respectfully submitted that this application is in condition for allowance. Early and favorable action is therefore respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



James J. Kulbaski
Attorney of Record
Registration No. 34,648

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

Raymond F. Cardillo, Jr.
Registration No. 40,440